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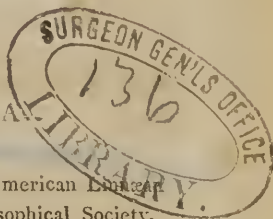
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AN
INVESTIGATION
OF THE
PROPERTIES AND EFFECTS,
OF THE
SPIRAEA TRIFOLIATA
OF LINNÆUS,
OR
INDIAN PHYSIC.

—●●●●—
BY
JACOB DE LA MOTTA

Of Charleston South Carolina.

Member of the Philadelphia Medical and American Linnean
Societies; and Member of the Charleston Philosophical Society.



—●●●●—
“*Fiat Experimentum.*”

Eye natur's lofty and her lowly seats,
Her gorgeous palaces, and green retreats ;
Pervade her lab'riths with unerring tread,
And leave for future guests a guiding thread.

Darwin's Temp. Nature.

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1810.



AN
EXPERIMENTAL
INAUGURAL DISSERTATION,
FOR
THE DEGREE OF
DOCTOR OF MEDICINE,
SUBMITTED
TO THE EXAMINATION OF
REV. JOHN M'DOWELL, L. L. D. PROVOST,
THE
TRUSTEES AND MEDICAL PROFESSORS
OF THE
UNIVERSITY OF PENNSYLVANIA,
ON THE
18TH DAY OF APRIL 1810.

TO
ALEXANDER BARON, M. D.

Of Charleston, South Carolina.

Dear Sir,

THE high veneration which I possess for your abilities as a professional character, would have been inducement sufficient for this dedication; but I have been prompted by other motives to prefix your name to this imperfect essay, the fruits of a medical education, commenced and conducted under your auspices.

MY feelings urge me to a manifestation of the pleasure and advantage I derived from your communicative talents, the high esteem I entertain for your private character, and my gratitude for the many favours conferred on me.

THAT you may long continue to enjoy the blessings you so justly merit, and to experience that plenitude of health you have restored to others, is the unfeigned and sincere wish of your affectionate and obliged,

Former pupil,

THE AUTHOR.

TO
SAMUEL WILSON, M. D.

Of Charleston, South Carolina.

Dear Sir,

WHEN I reflect on the happy years that I have experienced. when prosecuting the study of medicine under your direction, the disinterested marks of friendship, which you manifested towards me during that time, your anxious solicitude for my welfare, and the pleasing instruction which you afforded me ; they excite in my bosom those sensations, that accompany the highest sentiments of gratitude.

YOU have acted in the double capacity of a worthy preceptor and warm friend ; and it is to you that I am indebted for those principles which will lead me to alleviate the distresses of humanity, and meliorate the suffering condition of mankind.

YOUR philanthropic disposition has already obtained for you an eminently conspicuous station, among the ornaments of humanity. Receive this as a sincere testimony of my high respect, esteem and affection ; and be assured that the lively recollection of the many favours received from you will always be ardently retained by your

*Obliged and former pupil,
THE AUTHOR.*

TO
GEORGE HALL, M. D.
Of Charleston, South Carolina.

Dear Sir,

SUFFER me thus publicly to acknowledge my obligation, for the innumerable opportunities of improvement which were afforded by yourself, and the useful instructions which I have obtained from you, during my attendance on the practice of the Marine Hospital.

PLEASE to accept this as a small but sincere testimony of the high regard I entertain for your person and talents. Your indefatigable assiduity, and constant exertions to forward me in my medical studies, and the unremitted attention which you paid me while I was engaged in the important study of the structure of human nature, will ever be recollected with the highest sense of gratitude, respect, and esteem,

by your

obliged humble servant,

THE AUTHOR.

TO
WILLIAM P. DEWEES, M. D.

Lecturer on Midwifery, in Philadelphia.

THIS essay is also respectfully inscribed, as a tributary offering for the kind advice, instruction and politeness received from him during my studies in Philadelphia ; together with the advantages derived from his important lectures,

By his

Well-wisher and private pupil,

THE AUTHOR.

PRELIMINARY.

“ Solomon knew many plants, from the cedar of Lebanon to the hyssop on the wall.”

WHEN the mind is exercised in tracing, from the early dawn of medical science to the present day, the rapid progress mankind have made in their inquiries, that have so amply increased their knowledge of the virtues and sensible qualities of certain vegetables, designed by the benevolent author of nature, either for medical culinary, or ornamental purposes ; when we contemplate the very many substances, employed in combating and subduing the most formidable diseases that the human race has been inflicted with ; shall we attempt to enquire, by what pursuits or processes their virtues were made known, and whether these were discovered by curiosity or necessity ? Or are we at a loss to conceive, what first led to the attainment of the distinguishing marks, between the various plants which had flourished, unnoticed and unknown ? The same inducements, that urged to the investigation of the

natural productions of the earth, and that prompted experimentalists to their endeavours to unfold the grand *arcana* of nature ; should actuate every medical character, inhabiting the United States, to an inquiry into the properties of some of the most important of that endless variety of plants, strewn over this vast country.

ALMOST every animal that traverses the face of the earth, from the moment they are ushered into existence ; are subjected to the influence of particular causes capable of producing disease.—Every country, every nation, whether rude, civilized or refined, possess some peculiar malady : and each is gifted with certain remedies, which by proper application, are capable of its eradication.

MANKIND are subject to affections, both corporeal and mental ; for the cure of which, it would seem to be the object of medical science especially to investigate the properties of many of the natural objects, that spontaneously emerge from the earth.

DISEASES as incidental to human nature, make their appearance under such mixed and complicated forms ; and the constitutions of persons vary so obviously ; that they promptly and ur-

gently call for, not only various remedies, but different modes of exhibiting the same medicine.

THE Indians were well acquainted with many of the productions of the earth. This assertion is supported by well attested observations. Numerous are the medicines which were employed by the nations, that inhabit North and South America ; and many of these are both active and important ; some endued with esculent, and others noxious properties. One of their principal emetics we are informed, was the *spiraea trifoliata*, commonly termed Indian Physic.*

WE cannot hesitate to believe, that the plant which is the subject of the present dissertation, was in long and continued use among them in many of their diseases.†

WILL any one doubt the existence of many valuable medicines yet undiscovered ? Do we not derive advantage from the labours and indefatiga-

* Vide Barton's Collections. Part 2d.

† WE are told that the diseases of the Indian nations, make their appearance with as much violence, as they do in any civilized country ; and that they make very frequent use of this plant. They collect the ^{leaves} root after the flowers have disappeared ; and keep it dry for use.

ble exertions of the botanist, to arrange and classify the various productions of the vegetable world?

HAVE we not ample reason to believe, that very many plants exist in the untrodden forests of the United States, exhaling and spreading their invigorating or poisonous qualities to the desert air ; but in which may be found some valuable medicinal properties, that would be considered as acquisitions to an American *materia medica*? Are we not fully convinced, that the earth has not been inhabited by vegetables to no purpose? Unfortunately, many of their virtues have not been accurately ascertained, nor completely developed ; but time and attention may dissipate this obscurity, and they be rendered more subservient to our immediate purposes. The plants of the new world, are no less to be extolled for their healing virtues, than those of the old. This fact must certainly be admitted, that the United States have enriched the *materia medica*, with valuable and choice articles; some of which are endowed with energies, capable of obviating the most obstinate diseases that invade the animal system.

WHEN I reflect with what delight and assiduity, some men of worth and talents, have engaged in the cultivation of this science · striving to arrive

at the knowledge of the natural productions of their countries thereby affording to mankind an amelioration of their sufferings, and an alleviation of their distresses ; I am actuated with fresh inducement to prosecute my present inquiry.

WE have been informed, that the great Sydenham, “ That star in medicine, who stood like the steadfast pole, to guide the assiduous student to truth and eminence in his profession ;” lamented greatly the want of a medicine, similar in virtues to the ipecacuanha which we now possess.

SHALL we cease to enquire into the properties of some of our highly valuable plants, because, the materia medica already abounds with articles ? It may with truth be said, that many of them are superfluous and useless, and should be expunged from the catalogue. Great and truly happy would that man be, who should discover a medicine of equal efficacy in some particular disease, as mercury in syphilis, or peruvian bark in intermittants. To whom are we indebted for the discovery of some of our valuable articles ; such as the Quassia Amara, Cincona officinalis ? &c. To the ingenious naturalist, or scientific physician ? No ! the slave, and wandering savage.

DISEASES have long been suffered to drive from existence, with destructive wrath, numberless beings. The idea of alleviating the pangs and torments of human misery, and saving from the grasp of terrific death a suffering animal ; should induce the physician, to be unremitting in his exertions, to discover and exhibit proper remedies; and not leave that, which should engage his attention, to be prosecuted and investigated by future ages.

AMONG the invaluable articles that are employed in medicine, the officinal ipecacuanha holds a high rank. Its efficacy I presume to be well known. Experiment has proved the spiraea trifoliata to be nearly allied to it. The utility of a medicine similar to and less expensive than ipecacuanha may attract the notice of those, whom I doubt not will justly appreciate its virtues.

I HAVE been the more solicitous to point out the properties and effects of this spontaneous vegetable ; being well convinced that no inconsiderable advantage may be derived from its use. In the succeeding pages, I have ventured to bring forward some experiments and observations, relative to it; what I shall adduce is but an attempt to develop its properties. The subject is both useful and important ; and entitled to further investigation.

NATURAL HISTORY

OF THE

SPIRAEA TRIFOLIATA.

I. *Its Botanical Arrangement.*

VARIOUS are the vegetables, which nature very exuberantly has bestowed on America. Those endowed with particular virtues, and characteristic properties, produce different effects on the animal economy.

THE SPIRAEA TRIFOLIATA, which is the immediate object of the succeeding experiments, reflections, and observations; belong to a numerous and extensive family of plants. Different species of the genus spiraea, are situated in almost every part of the United States; inhabiting every climate.

IN the celebrated Linnæan system of vegetables, this genus is arranged under the twelfth

class Icosandria, and fourth ^{or} under Pentagenia, and its character is thus described.*

“ SPIRAEA.†

Cal. PERIANTH one-leaved, five-cleft, flat at the base, (the divisions acute,) permanent.

Cor. PETALS five, inserted into the calyx, oblong-rounded.

Stam. FILAMENTS more than twenty, thread-form, shorter than the corol, inserted into the calyx, ANTHERS roundish.

Pist. GERMS five or more, STYLES as many, thread form, the length of the stamens, STIGMAS headed.

Per. CAPSULE oblong, pointed, compressed, two-valved.

Seeds. FEW, pointed, small.

* Vide system of vegetables of Linnæus, translated by a Botanical Society of Litchfield, 1787.

† So called from the Greek word Σπειρα, a rope, because this shrub is flexible like a rope.

THIS genus includes twenty two species ; according to Linnæus arrangement. That of which we are about to speak is the 22d.

The spiraea trifoliata, the medical qualities of which I am particularly to treat of in the subsequent pages ; is an indigenous plant that spontaneously grows ; and may be found in great abundance, in North-Carolina, Georgia, Canada, Florida, common in South-Carolina, Pennsylvania,* &c. &c. generally known and distinguished by the various names of *Spiraea Ipecacuanha*, Three-leaved spiraea, Indian hippo, Indian physic, Meadow sweet, Drop-wort, Bowman's root,† &c.

THE accounts which have been given by botanists of the plant, differ in the titles ; an accurate description we cannot expect to find in every botanical book : from this consideration, I am induced to describe it as considered by a few ; deeming it totally useless to enter into a minute definition of each variety in particular.

* Different species of the genus spiraea are found in many parts of Virginia.

† Bowman is said to have first discovered its medical effects.

SPECIFIC CHARACTER AND SYNONYMS.

It is thus noticed in the species plantarum of Linnæus.

22. *Spiraea (trifoliata) foliis ternatis, seratis subæqualibus, floribus subpaniculatis.**

HABITAT in Virginia, Canada, 4 (v. v.)

SPIRAEA, with trifoliate sawed leaves, which are almost equal, and flowers growing into a kind of panicle.

IN the Hortus Cliffort. 191. it is termed, *fili-pendula foliis ternatis*.

PLUNKET (alm. 393) calls it, *Ulmaria major trifolia, flore amplo pentapetalo, Virginiana*. Meadow-sweet.

MORISON (hist. 3 p. 323) *Ulmaria Virginiana floribus candidis amplis longis et acutis*.

MICHAUX, in his *flora boreali Americana*, has six species, speaks of this as the fourth.

* Vide Lin. sp. plant. 490.

4. (S. T.) *Spiraea herbacea: foliis trifoliatis; foliolis lanceolatis; floribus, laxe subpaniculatis pentagynis; calyci tubuloso campanulato.* Hab. a Canada, ad Floridam.

RICHARD Weston in his Universal Botanist, has four species, describes this; three-leaved spiraea, with white flowers.

DEFINITION OF THE PLANT.

THE spiraea trifoliata is an herbaceous plant, that inhabits barren and uncultivated situations: to be found on dry soils, and scarcely or never to be perceived in plains. It has been cultivated in moist soils, for ornamental purposes.

It possesses a perennial root, small, slender, and irregular; dividing into many parts; and furnished with an infinity of small fibres. The roots resemble in structure, colour, size and taste, the common or officinal ipecacuanha of the materia medica. It is hardly to be distinguished, when in powder, from ipecacuanha; indeed many have been deceived by it. And I have been informed from good authority, that the Hippo of the shops, has been adulterated with spiraea.

THE roots generally run a little distant from, and sometimes very near the surface of the earth, in various directions. Similar to ipecacuanha, it is composed of an external cortical, and an internal ligneous substance. The exterior, or bark of the root, is made use of in medicine; and the emetic property resides more especially, and almost exclusively in this part; although experiment has sufficiently proved that the woody substance, possesses all the virtues ascribed to the bark, but in a considerable less degree.

WHEN chewed it imparts a more pleasant than disagreeable taste to the tongue; and it gives out no sensible odour. Its effects are lost in a great measure, and its action in the stomach somewhat retarded if not finely powdered.*

THE growth of this plant, is generally from twelve to eighteen inches in height; but altering I presume, according to the richness of the soil. The stalks are annual, slender, erect, dividing and sending out branches from the side, their whole

* I deem it necessary here to observe, that the root with which I was enabled to ascertain the above fact, was kindly presented me by a gentleman who procured it dry from the interior parts of South Carolina.

length. These are garnished with leaves,* which for the most part, are small and trifoliate: but are distributed in an alternate manner. Sometimes single, and at others by pairs near the top. They are about an inch and a half long, and half an inch broad; sharply sawed on their edges, acute-pointed, and of a bright green colour on their upper surface, and pale on the under.

THE flowers are disposed in loose panicles, and terminate the stalks. They have slender *petioli* or foot stalks; and each of them are possessed of five long spear shaped petals, which spread open, and a great many stamina, which are no longer than the tube of the flower. These are described by some to be of a clear white colour, and by others tinged with red. They appear sometimes totally destitute of this red colour. This species flowers in July, and the seeds ripen in September. As this is a plant which may be cultivated not only for its medical properties, but as an ornament to a flower garden, I have thought proper to make the following extract from Miller's Gardener's Dictionary.

* "The leaves and stem have been said to possess emetic qualities." Professor Barton's Lect. Not being able to procure the leaves at the proper time, I was prevented trying their effects.

“ IT is propagated by seeds, which should be sown in a shady border, soon after they are ripe ; for if they are sown in the spring, the plants will not come up till the year after, and many times fail. When the plants appear, they must be constantly kept clean from weeds, but they should not be removed till autumn, when their leaves begin to decay ; then they may be either transplanted where they are designed to remain, or into a marshy bed, where they may grow a year or two to get strength before they are planted out for good : this plant loves a shady situation and a moist soil.”

A CONCISE ACCOUNT OF THE EFFECTS OF
THE SPIRAEA TRIFOLIATA. ILLUSTRATED
BY A FEW EXPERIMENTS.

HAVING sufficiently ascertained what genus of plants this valuable article belongs, and having described its specific character ; I shall now in conformity to the intent of this essay, endeavour to prove its emetic effects when taken into the stomach.

IT will very evidently appear how extremely imperfect and unconnected the facts and observations contained in these sheets, are collected and thrown together. I have been induced, with the

view of cultivating an intimate acquaintance with an indigenous plant of our country ; to make a few experiments in order to explicate with proper precision and satisfaction, its emetic property, and other qualities, as very little was made known concerning its operation when taken internally. One of the chief objects which guided me, at the commencement of my investigating this article, and urged me to enter into the study of it more particularly ; was the desire of determining, whether it possessed similar virtues to the officinal ipecacuanha, as has been ascribed to it. And further, whether it might be used with equal advantage, in those diseases for which the ipecacuanha has been so successfully and universally employed. A want of proper opportunities for its exhibition, and the unforeseen interference of a variety of unavoidable pursuits, have retarded and prevented my collecting and arranging the necessary materials for this purpose. A concise and just statement of what I have been able to collect will be briefly related. How far future experiments will confirm, or refute these observations, I cannot assert, neither will I offer a conjecture.

THIS plant has been much employed by the country people, in decoction or tea. " This is sometimes very injudiciously employed by the

country people, insomuch that they are obliged to apply for medical aid to remove the debility induced by the large doses of the root which they employ.”*

THE best mode unquestionably of giving the medicine, is in powder ; although I am persuaded it is both safe and efficacious when exhibited in a liquid form. The root similar to the common ipecacuanha, as I have before observed, consists of a cortex or bark, and a ligneous or woody part. And I am fully convinced that the active power of the root, resides more evidently in the former, than in the latter. This cortical substance seems to possess in no small degree a resinous matter and a portion of gum : but so blended together, and their adherence so tenacious, that they are somewhat difficult to separate. With the desire of ascertaining, and convincing myself in which of these the emetic principle was exclusively retained ; and labouring under the impression that the particular virtues of the root resided more especially in the resinous than gummy part ; and being further desirous to establish very satisfactorily the best menstruum to extract the peculiar virtues of this medicine ; I made the following experiments.

* Barton's Collections, part 2d.

1st. I CAUSED to digest for a sufficient length of time, two ounces of the exterior of the root well bruised, in one pint of Spanish white wine.

2d. To one pint pure water, I added two ounces of the same part of the root, as in the first formula.

WHEN I conceived both mixtures had well digested, I placed each, separately in different bottles. Opportunities offering a few days after, I was determined to try the preparations. Accordingly I gave to two patients who were children, sufficient doses of the separate medicines ; with the view of exciting nausea and vomiting. The first patient to whom the wine was given, I observed a more prompt and decided effect, than that produced from the watery mixture given to the second. The operation of the latter was not only very tardy, but considerably more mild. I was particular in noticing this, as it strengthened my opinion of the great alliance between this article and the officinal Ipecacuanha. Should the above experiments be considered and deemed as conclusive ; we cannot hesitate to assert that the emetic quality of this root is centered very certainly in the resin : and when the vinous solution is given, and recent effects are wished for, its ef-

ficacy can be better depended upon. However I will not attempt to say that the root will yield very readily all its virtues to the Spanish wine ; neither do I detail the above experiments as well establishing the more prompt operation of the wine : for the peculiar habit or predisposition of the patient to whom the medicine was exhibited, may have had no inconsiderable influence in favouring the operation.

THIS medicine whether given in the above form, or in powder, is certainly and unquestionably a manageable emetic, as the foregoing experiments will tend to prove. The powdered root when taken in proper doses, seldom fails of exciting nausea and vomiting. It indeed is sometimes tardy in producing these effects, but very rarely. I am ready to believe that like other articles, it may be baffling in its operation ; but seldom when proper doses are administered. I am desirous it should be understood, that there is no pretension on my part to hint at any specific action of this medicine : neither would I wish to ascribe to it virtues it does not possess. I have not unfrequently observed the tardy action of the powdered root, nor unfrequently its sudden action. Small doses will often be sufficient for certain constitutions, and insufficient for others.

We must seldom depend on moderate doses for exciting full vomiting, and especially repeated vomitings; sometimes large doses being required. Small quantities may answer our intent and purpose, by assisting its operation with portions of warm water. It may commonly be given in divided doses till our expectations are completed. However, we need not apprehend any ill consequence arising from larger doses, as its mildness is too well established. Fifteen grains combined with a grain or two of Antimonium Tartarisatum, will in every instance produce the desired effect: and in this manner, it can be employed with great safety and care. Dr. Cullen observed when treating of Ipecacuanha, that “larger doses” than what is generally prescribed, “indeed may be given with safety, because as we have said, they are commonly thrown out in the first vomitings; but even on this account, they do not answer the purpose that may be required of repeated vomitings, and even practitioners commonly find, that to give any powerful or permanent stimulus to the stomach, it is necessary to add to the Ipecacuanha some portion of Emetic Tartar.”*

* Vide Cullen's *Materia Medica*.

THAT the SPIRAEA is efficacious, when given with the intent of exciting a convulsive action of the stomach, and in promoting a discharge of its contents, must appear very striking and evident, from the following experiments. My sole consideration when I commenced this dissertation, was to evince the unequivocal emetic operation of this medicine. In order to ascertain this particular power of the Spiraea; I early in the morning fasting, prescribed for myself twenty-five grains of the powdered root of this plant. I divided this quantity into four equal parts, one of which I took every fifteen minutes, conceiving this a sufficient length of time to allow for the action of each dose in my stomach. The first dose taken produced no manifest effect; at the expiration of fifteen minutes, I took a second dose; a great degree of uneasiness was experienced, attended with some nausea:—at the end of fifteen minutes more, I swallowed a third dose; nausea increased, until the convulsive action of my stomach took place. The fourth dose was now taken; considerable efforts were made to vomit. And finally the contents of my stomach were thrown up, together with a profuse quantity of bile. The determination of blood to my head; the frequency of my pulse; and heat of my system, were much augmented. I now drank a half

pint of warm water ; the action of my stomach subsided, and the nausea gradually wore off. A portion of the medicine I was induced to believe had insinuated itself into the intestines, as two copious evacuations were produced within the space of three hours. During the day I felt much debilitated, but imputed this to the general effect of emetics.

I WAS thus satisfied, with respect to its efficacy as an emetic, on an empty stomach. But being still desirous of becoming better acquainted with its particular operation after eating an usual meal, I made a second experiment one month after the first.

EXPERIMENT II.

IN the morning, one hour after I had eaten a hearty breakfast, I took twenty grains of the medicine in divided doses as in the former experiment. At the expiration of a very few minutes, nausea commenced, which continuing to increase, with very few efforts, I discharged the contents of my stomach. The effects of the second trial, answered exactly my expectations

EXPERIMENT III.

I GAVE to P. W. a stout robust man, twenty five grains, made with a little conserve, into eight pills, directing two of the pills to be taken every fifteen minutes till they operated. This man had previously complained of considerable pain in his head for two days ; his stomach I was led to believe from the appearance of his tongue, was out of order ; the medicine operated sufficiently, and the patient declared himself quite relieved. In this instance the presumption was strong, that the peristaltic motion of the intestines was increased, as the medicine had also operated as a purgative.

EXPERIMENT IV.

To a child of three years old, I gave ten grains of the powder, which I considered as a large dose. Vomiting was excited, attended with a copious and plentiful discharge of a very viscid mucus.

EXPERIMENT V.

TWENTY grains was given to a dog, in the course of twenty minutes, the spasmodic contractions of the stomach and abdominal muscles, were greatly promoted ; vomiting finally ensued, which

after a little time ceased ; and the animal gradually recovered.

THE preceding experiments, I deem sufficient to infer, that the principal and primary effect of the *spiraea trifoliata*, is to accelerate the action of the stomach, thereby exciting its retrograde paristaltic motion. That the medicine does possess the power of promoting the activity of that important viscus, causing it to throw out its contents, is beyond the point of controversy ; and every practitioner who shall have occasion to administer it, if in proper doses ; will inevitably observe this great influence.

Spiraea Trifoliata, appears to be incontestably, when properly administered ascertain Emetic. This assertion is not solely advanced on the success that attended the preceding experiments ; but is supported and strengthened by the authority of the Professor of Materia Medica.

IT would be committing violence on my feelings, did I omit mentioning here the first opportunities I had of witnessing the effect of this medicine ; and it was these that urged me to adopt this plant, as the subject of an Inaugural Dissertation. During my attending the practice of the

Marine Hospital of Charleston, I was fully convinced, that this medicine possessed very manifestly the emetic property ascribed to it. Dr. George Hall, then physician of the institution; and ever desirous to increase the stock of medical knowledge, prescribed this medicine in more than one instance. the result of the first trial, although conclusive, determined its frequent use; which tended more strongly to substantiate its emetic action.

WHAT has already been ascribed to this plant, I apprehend no one will be at a loss to understand, whether it produces all the effects that emetics in general do, I leave for future experimentalists to decide. If it is acknowledged to be as mild and as safe as the officinal *Ipecac*, I without hesitation pronounce it well worthy the attention of practitioners. Comparing it with the common *Ipecac*, it is well suited to act as a permanent and effectual stimulus to the stomach: and whenever moderate vomiting is thought proper to be employed, none is more fit than *Spiraea*. When we have strong and evident signs to induce us to suppose the stomach to be in a morbid state; or when from whatever particular inducements, emetics are thought proper to be given; and no question can arise on the propriety of their exhibition: the particular operation of this medicine is ex-

tremely interesting. It acts not like other articles of similar properties in promoting violent efforts and strainings, that might prove very alarming to the patient, and hurtful to the parts immediately concerned ; but from the mildness of its action, those consequences are not induced that result generally from other emetics. Like other emetics, this medicine promotes the secretions and excretions in every part of the body, tending both, to prevent and cure diseases.

OF THE USE OF SPIRAEA TRIFOLIATA IN
CERTAIN DISEASES ; AND PARTICULAR-
LY THOSE IN WHICH IPECACUANHA, HAS
BEEN EMPLOYED.

HAVING sufficiently particularised the principal effect of this plant when taken into the stomach ; let us next enquire in what diseases it may be used with efficacy and advantage. In the consideration of which, it will be very obvious, that this article bears no inconsiderable analogy to the common Ipecac. Their similarity will appear the more striking, when I shall prove that this species of spiraea, may be as certainly and successfully exhibited, in all those cases, for the cure of which, the Ipecacuanha has been used. Previously, I think proper to observe that the peculiar

operations of this medicine are Emetic, Cathartic, Tonic, and Astringent. It will certainly excite a plentiful evacuation through the pores of the skin; or act as a diaphoretic, when given in a proper form.

WHETHER it may be used as a cathartic simply, I shall leave to future observation. I am still impressed with the idea, that this action was particularly evidenced in the first and third experiments, and which induces me to pronounce it a lenient évacuant: and what renders it more valuable, is the innumerable useful purposes to which it may be applied.

ALTHOUGH I do not ascribe any strong or drastic power to it, still we perceive small doses, when they do not excite vomiting, pass by the pylorus and induce some action in the intestines: Proportionate doses may be given with this intent; that it can promote this, and occasion an evacuation of the fœces, will not be disputed. It is evident, not solely from the preceding experiments, but from a knowledge of a similar effect, that Ipecacuanha is capable of producing, that this article is well adapted to act in the same manner; and from our acquaintance with the virtues of the former, and its frequent recommendation in dis-

eases of the viscera; we trust the *Spiraea Trifoliata* would hold an equal character.

I HAVE very little to say in confirmation of its diaphoretic power. It has been remarked, and received as an opinion, conveying no small degree of probability; that there does exist a special consent between the stomach and the perspirable vessels that open upon the surface of the body. Certain medicines when taken into the stomach, do certainly excite a new action, through the medium of these mutual communications, and by these means, occasion a plentiful evacuation through the pores of the skin. In this manner we may suppose, the spiraea to act, in promoting the evacuation of matters through these channels.

As a tonic, I can say very little. I am unable to offer any observations from experience. It has been recommended as an excellent tonic by the Professor of materia medica. He observes, that this article is not unfrequently given to horses, with a view of mending their appetites; and also when they labour under dyspepsia. He further mentioned, that in small doses it is an excellent tonic, particularly in diseases of the summer; and those of southern climates.

It has been advanced and I think not improperly ; that the usual cause of the want of appetite, a loathing of food, an uneasiness produced during the time of digestion, and other peculiar conditions of the stomach, such as heart burn, flatulency, acid eructations, together with frequent head aches, &c. may be imputed to a loss of tone in the muscular fibres of the stomach. If this be admitted ; there is no medicine better calculated than *Spiraea Trifoliata* to restore the loss tone ; produce a proper discharge from the mucous follicles of the stomach ; and relieve the above distressing affections. Although vomits have been censured, as not affording durable relief, but prove by their effects hurtful to the stomach ; and causing symptoms of indigestion to occur more frequently, still they are indispensable, and the *Spiraea*, possesses eminently the power of preventing such tendencies.

THIS medicine has been spoken of, as being considerably more astringent than *Ipecacuanha* ; should this be satisfactorily ascertained, it cannot fail of attracting attention.

ALL Practitioners have uniformly recommended the use of Emetics or Cathartics in Intermittent fevers, previous to the accession of an ex-

pected paroxysm ; and preparatory to the use of Bark as rendering the stomach more capable of receiving and retaining a larger quantity. Emetic Medicines have been given in such doses, as to occasion a great degree of nausea, and sickness without vomiting. It will not be denied, that success has attended this mode of practice: and if I am not greatly led in error, this plan of treatment is adopted at the present day. True it is, that tartar emetic has been employed for the desired purpose, and with evident success ; but who is ignorant of the powerful action, that this medicine is capable of inducing in the system? I am not prejudiced in favour of the efficacy of spiraea, in this disease ; but am induced to think that in proper adjusted doses, it is not only very manageable, but well suited for the above intention. Upon the whole, I conceive this medicine to be better calculated to induce the proper degree of sickness without vomiting, and to obtain that permanent degree of nausea, that is judged necessary in such cases. What is here advanced in favour of its use, is in consequence of its great analogy with Ipecacuanha, and if we were to argue from the common and general operation of the spiraea on the system, when taken internally, we should decidedly assert, that if properly administered in decoction or in infusion, it would prove both effectual and valua-

ble in intermittents. It has been said, that it is “peculiarly adapted,” to this disease; indeed from the character of the plant, together with the short acquaintance of its properties; should be a great inducement to every one to exhibit it.

IF our knowledge of the nature and progress of dysentery, as depending upon an increased action of the alimentary canal, be correct: the cure I conceive must depend upon a regular and steady support, together with a proper determination of that motion of the intestines downwards, commonly termed peristaltic. Spiraea, as I will presently explain, is well suited for this intent. It may be enquired how this medicine acts in removing dysentery? I answer, “by creating or exciting a counter-action to the peristaltic motion;” and thereby lessen the violence of the disease.

INNUMERABLE have been the opinions adduced on the propriety of prescribing laxatives or purgatives in this disease. This mode of practice has been pursued by many: from this I conclude, that however various the sentiments on this point may be; and whatever other operation may be imputed to this article in dysentery; I am disposed to believe its efficacy resides in its purgative quality. And what may tend to con-

firm this, is the particular action ascribed to Ipecacuanha when serviceable in this disease. We need no better observation to convince us, than that of Cullen on Ipecacuanha in dysentery, which is, "that other emetics proving laxative, are equally or more effectual."*

FROM my little experience of this disease, and the method of cure, I have in ten cases out of twelve invariably seen Ipecacuanha exhibited with manifest success. This medicine has been very urgently recommended either alone or combined with other articles. This is too well established to admit of refutation; but to advert to the fact of the spiraea proving advantageous in this particular disease, the following case will evince.

DURING the last summer I gave a patient labouring under genuine dysentery, fifteen grains of the powdered root, combined with one grain of opium; this case was attended with some hæmorrhage; the fæces evacuated were constantly streaked with blood; and the tenesmus accompanying, was almost insupportable. The effect of this medicine equalled my expectations. I had

* Vide Cullen's Mat. Med.

occasion to repeat it, and evident success followed its use. I continued giving the powder in the above form, till the case called for an alteration of the plan of treatment. This I conceive fully conclusive to prove its efficacy in this disease. Why should we hesitate to speak of the *Spiraea Trifoliata* with the same enthusiasm and ardor, as we do of the officinal *Ipecacuanha*, when successful in this disease?

No doubt exists on my mind, that in all those stages of *Diarrhæa* in which *Ipecacuanha* has been employed, that by proper management this article would be very beneficial.

VERY many remarks may be offered on the use of this plant in *Hæmorrhagies*. I shall only observe that like other emetics it may be used with salutary effects; and exclusively in *Hæmorrhagies* from the Intestines and Uterus. Its primary action in these two cases, depends upon the power it possesses of inducing the first degree of nausea; and diminishing the action of the blood vessels. On the propriety of administering *Spiraea* in these affections, there can be no question. I leave it to the ingenious practitioner to judge, whether the particular mode of operation, together with the proper doses of this article,

“ may not render this a fitter medicine than some other emetics.”

EMETICS have been very advantageously used in rheumatic affections, and have not unfrequently entirely removed the disease. They are often determined downwards and produce the effects of cathartics. Independent of this action, they have the power of agitating the whole system, and of inducing gentle diaphoresis; which eventually tends to remove the disease. Should this be admitted, we cannot devise a more proper medicine than *Spiraea*.

IN irregular or retrocedent gout, *Ipecacuanha* when given, has invited the gout to the feet. Is it impossible to expect a similar action from the use of this article?

IN the disease of *Cynanche Trachealis* or *Hives*, with fever; I can speak with confidence of the use of this medicine. To a child three years old, labouring under all the distressing symptoms that accompany this cruel disease; a tea spoonful of the *Vinum Spiraeæ* was given every ten minutes. Its operation was very speedy, and a quantity of viscid mucous was thrown up; after which the child was instantly relieved, the fever abated in

violence, the breathing was more regular and free, a determination to the skin was produced, and the patient completely recovered.

FROM the above account of the particular operation of the spiraea trifoliata, worthy to be noticed; we may boldly assert, that by proper management it might prove very decidedly of great benefit and efficacy, in the diseases of Pulmonary Consumption, Hæmorrhage from the lungs, Dropsies, Colica Hepatica, Small-pox, more especially in those cases in which there is a collection of viscid mucous in the trachea, Astma, Icterus, Hæmoptesis, to take off the determination of blood to the lungs, &c. &c. and in all those diseases for cure of which, Ipecacuanha has been exhibited with advantage.

I now conclude the consideration of the Natural history and properties of the Spiraea Trifoliata. I leave the subject with no small degree of regret, as necessity obliged me to treat but slightly of the diseases for which this medicine is admirably adapted. I content and console myself with one pleasing reflection; that, as it has been the constant characteristic of the generous mind to view the weak and tender productions of youthful acquirements, with an indulgent eye;

that the same lenity will be exercised towards me, when it is considered, I was urged to the present feeble undertaking, for the good of the medical world ; “ *non scribendi cacoethes.*”

As a wide and expanded field now lays before us, for investigating with more exactness and definitude the peculiar properties of this species of *Spiraea* ; I do ardently hope that the subject may be considered by one, more adequate and better calculated to learn its operative effects on the system. I am too confident that this plant will at a future period be extolled as an invaluable acquisition to an American *Materia Medica*.

IN pursuing the powerful impulse of my feelings, I cannot leave this University, without tendering my most sincere and grateful acknowledgements to its enlightened preceptors. You, ILLUSTRIOUS PROFESSORS, collectively as a body, and individually as gentlemen, claim my highest esteem and regard. With some of you my acquaintance has been more intimate ; your politeness and friendly counsel, I shall ever appreciate. The indefatigable and unwearied attention, which each of you manifested towards your pupils, while

endeavouring to instill in their minds the importance of what you delivered ; will ever be remembered while life animates my frame. May you live long, and continue to exercise the duties attached to your respective departments, with that honour and renown which has already crowned your labours. And when expiring nature shall call you from hence ; may you be translated to that blissful mansion the dwelling of the good.

THE END.

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